CLAIMS

1. The use of a ferritic chromium steel comprising

0.03 to 0.1% of carbon,
0.2 to 0.9% of silicon,
0.3 to 1% of manganese,
13 to 20% of chromium,
less than 0.5% of nickel,
0.1 to 1.5% of molybdenum,
0.1 to 0.5% of copper,
0.03 to 0.05% of nitrogen,
less than 10 ppm of boron,
less than 0.01% of titanium,
0.01 to 0.10% of niobium,
0.02 to 0.25% of vanadium,
less than 0.002% of aluminum,
remainder iron

as a material for corrosion-resistant spring elements.

2. The use of a chromium steel as claimed in claim 1, which contains less than 10 ppm of boron and/or less than 0.002% of aluminum.

3. The use of a steel as claimed in claim 1 or 2, characterized in that the carbon and nitrogen contents satisfy the condition

$$(\%C)/(\%N) = 0.8 \text{ to } 2.0.$$

4. The use of a chromium steel as claimed in one of claims 1 to 3, characterized in that the niobium, vanadium and titanium contents satisfy the condition

$$[(\%Nb) + (\%V)]/10(\%Ti) = 5 \text{ to } 17.$$

5. The use of a chromium steel as claimed in one of claims 1 to 4 in the state in which it has been solution-annealed, cold-worked and tempered at low temperatures.

6. The use of a chromium steel as claimed in one of claims 1 to 5 for producing dimensionally stable, low-distortion objects by stamping or cutting.

7. The use of a chromium steel as claimed in one of claims 1 to 6 as a material for leaf springs, spring rails for windscreen wipers, piston rings for internal combustion engines, sealing lamellae for hydraulic installations, reed lamellae and for products which come into contact with the skin.

8. A process for improving the spring properties of material in strand form, in which a ferritic chromium steel comprising

0.03 to 0.1% of carbon,
0.2 to 0.9% of silicon,
0.3 to 1% of manganese,
13 to 20% of chromium,
less than 0.5% of nickel,
0.1 to 1.5% of molybdenum,
0.1 to 0.5% of copper,
0.03 to 0.05% of nitrogen,
less than 10 ppm of boron,
less than 0.01% of titanium,
0.01 to 0.10% of niobium,
0.02 to 0.25% of vanadium,
less than 0.002% of aluminum,
remainder iron

is cold-worked to a degree of deformation of up to 40%, then solution-annealed and quenched.

9. The process as claimed in claim 8, characterized by solution annealing at 1000° to 1200°C.

10. The process as claimed in claim 8 or 9, characterized in that the solution-annealed steel is cold-worked with a degree of deformation of up to 65%.

11. The process as claimed in claim 10, characterized in that the cold-worked steel is hot age-hardened at a temperature of from 100° to 400°C.

12. The process as claimed in claim 10 or 11, characterized in that the steel with a degree of deformation of up to 12% is set to a mean grain size of less than 15 µm.

13. The process as claimed in claim 11 or 12, characterized by a final anneal under stress.

14. The process as claimed in claim 13, characterized by a tensile stress of from 20 to 100 N/mm^2.